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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,300	03/28/2005	Hans-Helmut Bechtel	DE 020089	6524

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BRIARCLIFF MANOR, NY 10510

EXAMINER

WALFORD, NATALIE K

ART UNIT	PAPER NUMBER
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2879

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/510,300	Applicant(s) BECHTEL ET AL.	
	Examiner Natalie K. Walford	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Amendment, filed on April 17, 2007, has been entered and acknowledged by the Examiner. Newly added claims 21-22 has been entered. Claims 1-22 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 9-11, 13, 15, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Okajima (US 6,072,276).

Regarding claim 1, Okajima discloses a plasma picture screen in figure 10 comprising: a front plate that includes a transparent plate (item 1) on which a dielectric layer (items 28 or 29) having a first dielectric constant (column 14, lines 40-44) and a protective layer (item 16) are provided, a carrier plate (item 8) that includes a phosphor layer (items 10, 11, and 12), with a ribbed structure (item 6) subdividing the space between the front plate and the carrier plate into plasma cells filled with a gas, one or several electrode arrays (items 2 and 9) on the front plate and the carrier plate for generating corona discharges in the plasma cells, and a powder layer (item 30) having a second dielectric constant between the electrode arrays on the front plate and the electrode arrays on the carrier plate, wherein the second dielectric constant is substantially

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less than the first dielectric constant, thereby reducing a discharge capacitance of the plasma cells. The Examiner notes that it is inherent for a layer to have a dielectric constant. Okajima discloses that the powder layer may be made of chromium (column 1, lines 53-55). It is known that chromium has a dielectric constant between 8 and 12, which is less than the dielectric constant of the dielectric layer as disclosed by Okajima. Hence, Okajima meets the claimed limitations.

Regarding claim 2, Okajima discloses the plasma picture screen of claim 1, wherein the powder layer is provided on the protective layer (see FIG. 10).

Regarding claim 3, Okajima discloses the plasma picture screen of claim 2, wherein the powder layer is provided in strip-shaped sections on the protective layer (see FIG. 10).

Regarding claim 4, Okajima discloses the plasma picture screen of claim 3, wherein the strip-shaped sections of the powder layer are provided such that they each lie opposite an intervening space between pairs of respective discharge electrodes (see FIG. 10).

Regarding claim 7, Okajima discloses the plasma picture screen of claim 1, wherein the powder layer includes a non-phosphor dielectric material (column 1, lines 53-55).

Regarding claim 9, Okajima discloses the plasma picture screen of claim 1, wherein the powder layer includes material that emits UV radiation (column 1, lines 53-55).

Regarding claim 10, Okajima discloses the plasma picture screen of claim 9, wherein the powder layer includes a plurality of materials that each emit a different color of visible light (see FIG. 10 and column 7, lines 61 thru column 8, line 15).

Regarding claim 11, Okajima discloses a plasma display in figure 10 comprising: a front plate that includes a transparent plate (item 1) on which a first dielectric layer (items 28 or 29)

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having a first dielectric constant (column 14, lines 40-44) and a protective layer (item 16) are provided, a carrier plate (item 8) that includes a phosphor layer (items 10, 11, and 12), with a ribbed structure (item 6) subdividing the space between the front plate and the carrier plate into plasma cells filled with a gas, one or several electrode arrays (item 2 and 9) on the front plate and the carrier plate for generating corona discharges in the plasma cells, and a second dielectric layer (item 30) having a second dielectric constant that is substantially lower than the first dielectric constant that is situated between the electrode arrays on the front plate and the electrode arrays on the carrier plate, thereby reducing a capacitance between the electrode arrays on the front plate and the electrode arrays on the carrier plate. The Examiner notes that it is inherent for a layer to have a dielectric constant. Okajima discloses that the powder layer may be made of chromium (column 1, lines 53-55). It is known that chromium has a dielectric constant between 8 and 12, which is less than the dielectric constant of the dielectric layer as disclosed by Okajima. Hence, Okajima meets the claimed limitations.

Regarding claim 13, Okajima discloses the plasma display of claim 11, wherein the second dielectric layer includes strip-shaped segments that overlap at least a portion of the electrode arrays on the front plate (see FIG. 10).

Regarding claim 14, Okajima discloses the plasma display of claim 11, wherein the second dielectric layer includes a non-phosphor oxide (column 1, lines 53-57).

Regarding claim 15, Okajima disclose the plasma display of claim 11, wherein the second dielectric layer includes a powder (column 1, lines 53-55).

Regarding claim 17, Okajima discloses the plasma display of claim 11, wherein the second dielectric layer includes a material that emits UV radiation (column 1, lines 53-55).

Regarding claim 18, Okajima discloses the plasma display of claim 11, wherein the second dielectric layer includes a material that emits visible light (see FIG. 10 and column 7, lines 61 thru column 8, line 15).

Regarding claim 19, Okajima discloses the plasma display of claim 11, wherein the second dielectric layer includes a first material that emits light of a first color and a second material that emits light of a second color (see FIG. 10 and column 7, lines 61 thru column 8, line 15).

Regarding claim 20, Okajima discloses the plasma display of claim 11, wherein the second dielectric constant is less than 5 (column 1, lines 52-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okajima (US 6,072,276) in view of Takagi et al. (JP 2000-113824).

Regarding claim 5, Okajima discloses the plasma picture screen of claim 1, but does not expressly disclose that characterized in that the density of the powder layer is 60% of the density of the powder material, as claimed by Applicant. Okajima discloses certain materials for the powder layer (column 1, lines 53-55), but not the densities. Takagi is cited to show a plasma display panel with a fluorescent powder that has a consistency between 0.3 and 0.6 (paragraph 6)

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and can be made from fluorescent powders (paragraph 11). Takagi teaches that there are few defects and a layer formed at this ratio has high luminescence brightness and high display quality (paragraph 8).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Okajima's device to include the density of the powder layer is 60% of the density of the powder material as suggested by Takagi for having a high luminescence brightness and high display quality.

Claims 6, 8, 12, 16, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okajima (US 6,072,276) in view of Konishi et al. (US 5,957,743).

Regarding claim 6, Okajima discloses the plasma picture screen of claim 1, but does not expressly disclose that the powder layer includes a material chosen from the group of dielectric materials and phosphors, as claimed by Applicant. Konishi is cited to show a plasma picture screen in figure 3 with a powder layer (item 10) that is made from a dielectric material (column 4, lines 24). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the powder layer includes a material chosen from the group of dielectric materials and phosphors, as suggested by Konishi, since it is has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the purpose of using a dielectric in a powder layer.

Regarding claim 8, Okajima discloses the plasma picture screen of claim 1, but does not expressly disclose that the powder layer includes material that reflects UV radiation, as claimed by Applicant. Konishi is cited to show a plasma picture screen in figure 3 with a powder layer

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(item 10) that is made from a material that reflects UV radiation (column 4, lines 24). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the powder layer include material that reflects UV radiation, as suggested by Konishi, since it is has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the purpose of reflecting UV radiation.

Regarding claim 12, Okajima discloses the plasma display of claim 11, but does not expressly disclose that the second dielectric layer includes strip-shaped segments that overlap at least a portion of the electrode arrays on the carrier plate, as claimed by Applicant. Konishi is cited to show a plasma display in figure 3 that has a dielectric layer (item 10) that overlaps the electrode (item 2) on the carrier plate (item 1). Konishi teaches that the dielectric layer has proper absorptiveness and substantially improves the uniformity of the phosphor layers (column 3, lines 15-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Okajima's invention to include the second dielectric layer includes strip-shaped segments that overlap at least a portion of the electrode arrays on the carrier plate as suggested by Konishi for proper absorptiveness and improving the uniformity of the phosphor layers.

Regarding claim 16, Okajima discloses the plasma display of claim 11, but does not expressly disclose that the second dielectric layer includes a material that reflects UV radiation, as claimed by Applicant. Konishi is cited to show a plasma picture screen in figure 3 with a powder layer (item 10) that is made from a material that reflects UV radiation (column 4, lines 24). It would have been obvious to one having ordinary skill in the art at the time the invention

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was made to have the powder layer include material that reflects UV radiation, as suggested by Konishi, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the purpose of reflecting UV radiation.

Regarding claim 21, Okajima discloses the plasma display of claim 11, but does not expressly disclose that the second dielectric layer is less than 20 μm thick, as claimed by Applicant. Konishi is cited to show a plasma display panel in figure 3 with a dielectric layer that is 10 μm thick (column 4, lines 24-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the second dielectric layer is less than 20 μm thick, as suggested by Konishi, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 22, Okajima discloses the plasma picture screen of claim 1, but does not expressly disclose that the powder layer is less than 20 μm thick, as claimed by Applicant. Konishi is cited to show a plasma picture screen in figure 3 with a powder layer that is 10 μm thick (column 4, lines 24-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the powder layer is less than 20 μm thick, as suggested by Konishi, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

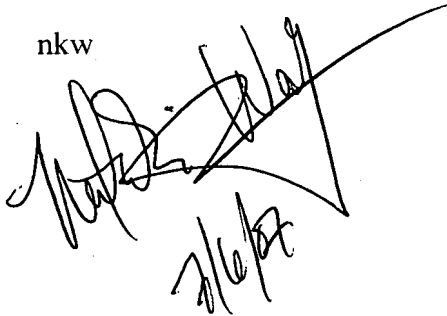
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

A handwritten signature in black ink, followed by the date 7/6/07 written below it.

Sikha Roy
SIKHA ROY
PRIMARY PATENT EXAMINER